

# ***From tradition to innovation: exploring administration practices in four Portuguese university libraries<sup>1</sup>***

## **Abstract**

The purpose of this comprehensive study is to conduct a cross-sectional observation of four Portuguese university libraries, thus contributing to the knowledge of this reality and achieving an overview of the administrative structure, resources and user instruction in these university libraries. The overall contribution to the field is mainly a focus on the state of the art of university libraries in Portugal.

## **Keywords**

University Libraries; Portugal; User Education;

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## Introduction

Effective management is a goal that all university libraries have in their day to day mission. In the current climate, libraries have more and better access to sources of information; further rationalization of costs through joint signatures or acquisition of printed and digital materials in scale; cooperation in working groups for specific challenges in innovation, in buildings, communication, user training or staff qualification. The availability and flexibility of each of the documentary units, departmental libraries, or libraries of different organization units seems to be the basis for the development of quality work suited to the needs of the academic community. Within this reality, it is interesting to understand, describe and explain how libraries are responding to the changing demands and, in administrative aspects, how Portuguese libraries have been able to align new products and services offered to new social context and educational paradigms.

An overview of this reality explains the relevance of university libraries in Portugal, and their administration practices. As a European country, Portugal felt the influences and integrated the meanings of modernity, albeit rather lagged in time. Nevertheless, in education and training, several transformations occurred since the 1960s, namely changes regarding curriculum content, organization of knowledge for training and education, and school structures.

At the beginning of the second half of the twentieth century, profound changes occurred in the school system, which steepened the influences of the economy, new trends and forms of social and political organization, where mechanization and mass production were an irreversible claim. During the third quarter of that century, the endogenous changes in the education system-sharpened, completely transforming the educational reality in Portugal (Magalhães, 2010: 498).

The scope of tertiary education is fundamental to this study because, in the context of the analysis of university libraries, it must be understood that governmental action was emphasized precisely in the 20<sup>th</sup> century and the advent of 'mass' education, reconfiguring compulsory basic education in recent decades, also influenced the morphology of public higher education.

## Methodology

A comparative approach of Portuguese libraries will be carried out, in an attempt to bring to light the common ways of responding to these challenges and to highlight specific issues that have arisen to date, as a natural result of historical paths, geographies, and sociability inherent and particular to each one of them. Choosing the case study method is related to the fact that it enables an analysis of real contemporary situations, taking into account their contextual influences (Yin, 2003: 13). Thus, the advantage of performing a case study with the focus on four institutions is mainly to carry out an in-depth observation of a reality, promoting reflection about the past and decision making about future prospects.

This approach used a combination of four case studies that provided sufficient evidence to draw conclusions and make recommendations on this area of librarianship in higher education. For this purpose, a research inquiry was conducted over the internet. The advantage of performing a documentary collection of a non-interfering nature is mainly to avoid contamination, resulting from observation, and to this end official documents emanating from these institutions were systematically collected and placed in the public domain through websites.

As a reference to this analysis, the ALA (2011) *Standards for libraries in higher education* were taken into account, because they fit the basic aspects of a current university library. In fact, the standards were constructed to guide academic libraries, as stated in their introduction:

The *Standards for Libraries in Higher Education* are designed to guide academic libraries in advancing and sustaining their role as partners in educating students, achieving their institutions' missions, and positioning libraries as leaders in assessment and continuous improvement on their campuses. Libraries must demonstrate their value and document their contributions to overall institutional effectiveness and be prepared to address changes in higher education. These *Standards* were developed through study and consideration

of new and emerging issues and trends in libraries, higher education, and accrediting practices.

The following observation of libraries through this frame of reference confirms adherence to the ALA Standards. It also confirms the commitment to the institution to which they belong, including learning and research support, user-centered practices, continuous evaluation of their performance, and efforts to improve operability in everyday life. By incorporating comparable principles and performance indicators, comprehensive and incisive aspects such as spaces, collections, organization, management, and the educational role of the libraries in question can be covered.

#### **Four Portuguese university libraries: an overview**

In the next pages, the following university libraries will be analyzed:

*Documentation Services of Minho University*

*Integrated Service of the Libraries of Coimbra University*

*Libraries of Aveiro University*

*Integrated Service of the Libraries of Lisbon University*

For this purpose, it is necessary to turn to an observation frame with three axes of analysis:

- The organic, functional, administrative, and technical structure;
- Spaces, devices and technological resources;
- Pedagogical functions that support teaching and investigation.

Based on these lines of thought, an observation of the evolutionary picture in which all these perspectives take place is necessary to allow a withdrawal from these contributions elements toward a universalization of the problems of the subsystems that are higher education libraries.

## **Documentation Services of the Minho University (SDUM)**

The libraries of the Minho University have a centralized management, thus ensuring the accompaniment of the general libraries of the two major branches of the University, located in Braga and in Guimarães, as well as of the library in the Congregados Building. Both general libraries (in Braga and Guimarães) offer their readers over 400,000 books and around 600 seats for reading. The official site of the Documentation Services (<http://www.sdum.uminho.pt>) mentions that:

The intervention of the Documentation Services materializes in several areas. Some of the numbers can illustrate part of the activities developed by the SDUM:

About 415,100 monographic documents and over 343,200 issues of periodicals that exist in the U.M. libraries and are referenced in the bibliographic catalogue;

The General Library and the U.M. Library in Guimarães provide 416 and 260 seats for reading, respectively.

The main libraries are run by the Documentation Services, namely the General Library of Minho University, the Library of Minho University in Guimarães, the Library of Educational Sciences, the Library of the Congregados Building, the Library of the School of Health Sciences and the European Documentation Center of Minho University. Other libraries, with a more autonomous character, are specialized departmental spaces that are integrated into organic units. The U.M.'s 2011 yearly activities report (Universidade do Minho, 2012: 1) explains that:

The Documentation Services are important in their support of the activities developed at Minho University. They gather, treat, organize, make available, provide and preserve informational resources that are relevant to the educational and scientific and technological research activities taking place in the U.M.

The Documentation Services ensure the management of the Minho University's libraries, both in Braga and in Guimarães, and carry out a

group of actions that promote and enable user access to a variety of information sources.

As for their organization, these Services comply with a departmental structure, which is subdivided into two Divisions and one section. These are the Librarianship Division, the Information Division, and the Office. The field of librarianship entails services associated with Acquisitions, Document Analysis, Cataloguing, Document Networks, Reading and Lending. As for the Division of Information, this involves the services of Digital Library, Computing, UM Repository, Dissemination, Training and Animation. Administrative support tasks and those of library maintenance are up to the Office, which depends directly on the Services Department. Within the latter, there are also two special divisions devoted to projects: the Open Access Projects Office and the Quality Management System, dependent on the Director, whose functions are described in the services' web page (Universidade do Minho, 2012b):

The Open Access Projects Office is in charge of managing and carrying out activities related to the projects in which the Documentation Services participate. Currently, the SDUM are participating in the following projects related to Open Access: NECOBELAC, OpenAIRE, RCAAP. As for the Quality Management System, the SDUM have implemented their system based on standard ISO 9001:2008 and on the Balanced Scorecard.

It should be said that, in 2011, these services were assigned the scientific and technical coordination of the development of the project RCAAP (Open Access Scientific Repository of Portugal), by the Foundation for National Scientific Computing, via a protocol. Thus, they are considered experts in the fields of digital contents and, particularly, as far as Scientific Repositories are concerned.

Presently, the Services Department has around 30 workers, among them senior staff, computer staff and technical staff, most of whom are trained in the technical area. Over the past year, 7 people whose contracts ended have gone.

As a whole, the U.M. libraries offer about 700 reading and study seats, divided by the spaces corresponding to the libraries mentioned earlier. Service-wise, the traditional ones are provided to users, such as home loans, inter-library loans,

documents reproduction through print, photocopy and scan self-services, reference services, and user training.

Undoubtedly, the main highlight of Minho University's libraries are their digital resources. Besides making their catalogue available online, the UM also provides a significant digital area, where the RCAAP Portal is harbored and aggregates UM's own Repository, access to the B-on portal, access to several reference and full-text databases and to the A-to-Z index of periodical publications as well as the possibility of using the EndNote resource. In 2011 alone, the Documentation Services developed a new search engine related to the RCAAP Portal, a Centralized Statistics Service of the Use of Repositories (SCEUR), and a new Scientific Journals Hosting Service (SARC), which currently hosts 10 scientific journals. They also carried out a study aimed at the State of the Art in Digital Preservation on a national level. The work carried out is not limited to the development and application of technologies, but it is also about framing and modelling the technological panorama applied to university libraries in Portugal, particularly as regards repositories (Universidade do Minho, 2012: 11):

Regarding policies and guidelines, the addon OAextended was improved to encompass compatibility with the guidelines of the OpenAIRE project. This addon allowed 28 repositories on a national level to become compatible with the European guidelines and it allowed the DSpace community to have a viable option for this integration. New rules of aggregation were also defined for the RCAAP Portal so as to encompass scientific journals and scientific data.

This shows that there is a significant technological focus associated with the management of information contents, which is enhanced through the collaboration, partnerships and leadership of this library in the development of models, good practices and applications in these fields.

The Minho University libraries offer tailored support in the activities of identifying and using information sources, in an informative, pedagogic and autonomy-promoting perspective towards its users. Besides the frontline support provided by the helpdesk team, a senior staff member and a professional technical expert also collaborate in this activity.

As the quote reveals (Universidade do Minho, 2012: 42), these libraries develop regular work to train their users. In practical terms, this means that the Minho University libraries ensure the provision of assisted research service and of a question-answer service when requested by users. In addition to these services, they also provide user training in the classroom context, and have guidance documents at the readers' disposal. Thus, pedagogical functions are guaranteed through the traditional means of training offer by libraries in a university context: on the one hand, in-person support at the library; on the other hand, preparing classes with explanations about the available resources. However, it must be noted that, as part of the work done with technologies, especially concerning the management and development of services related to providing open access to electronic resources and scientific production (collaboration with B-on, Open Access movement and RCAAP Repository), the pedagogical role of this Library goes far beyond the scope of its university, working as an instructor of procedures in the national academic community and even on an international level, particularly with Brazil.

### **Integrated Service of the Coimbra University Libraries**

Because of its long history and extensive activity, Coimbra University (UC) has a remarkable set of around ninety libraries, unique on the national scale, harboring about two million volumes. The largest one of all is the General Library of Coimbra (BGUC), with over one million volumes: it includes the immensely rich patrimony of the Joanina Library that contains a good part of the stock of old books (this stock ranges from Medieval times to 1830 and include over 100,000 volumes, a genuine "treasure" on the national and international scale).

This is the beginning of the text about the Coimbra University Libraries (Fiolhais & Marques, 2009: 133) that paints a very complete picture of the largest Portuguese university library and the second largest library in the country, the first being the National Library of Portugal. The Coimbra University libraries are the result of a legacy whose origin is documented since the beginning of the 15th century and which grew parallel, naturally, to the developments of Coimbra University. In the preamble of the



Coimbra General Library's Regulations (Portugal. Leis, decretos, etc., 2009), the main historical references at the root and development of this library are explained, most importantly the creation of the Joanina Library, authorized by royal approval in 1769 and gathering, from its opening (ten years later), «large quantities of books on various fields of knowledge». Later, «the Pombal reform of the University, in 1772, shaped the creation and expansion of very rich, specialized, sectorial libraries, especially in the new Faculties of Philosophy and Mathematics». Another very important historical reference for the growth of these Libraries was the implementation of the Legal Deposit and the choice of this library as its depositary from 1932 onwards. Up until the present and together with important and meaningful private donations, this process resulted in an enormous contribution to the expansion of the documental funds in the custody of this institution.

Heir to important academic traditions, the General Library of Coimbra University is the largest library among those forming the Integrated System of the Coimbra University Libraries (SIBUC), and it also has the responsibility of coordinating this aggregated structure. The centralization of the libraries' management suffered a very recent (2006) expansion and organic clarification. Essentially, this centralization resulted from an in-depth study based on user surveys and on the analysis of the situation of the different libraries, taking into account factors such as location, number of seats available, bibliographic collection, and staff. Besides the thoroughness of the internal analysis, this team also took care to be well supported with documents that have international data and studies for assessing good practices, standards, and the best references in order to find solutions and make suitable decisions for the reality of Coimbra University.

This study – *Reorganization and restructuring of the libraries of Coimbra University: a report* (Marques, 2006), prepared by a multidisciplinary Commission and coordinated by the Vice-Rector in charge of this field, with technical elements but also with specialists, resulted in a reorganization and restructuring plan that has been coming to life since then, with some aspects still under way as of 2012. This plan has been applied, generally speaking, namely in the integration of the documental collections into one single catalogue for the whole university.

Thus, there is a group of over 90 libraries (currently aggregated in about ten large libraries) which, as a whole, offer over 2,000 seats. With a multidisciplinary structure, these libraries aggregate around technological devices (a catalogue based on the technological platform Millennium, the Scientific Repository *General Study*, the digital library of old books *Alma Mater*) that congregate benefits for all concerned parties, due to the economy of scale in optimizing resources, but also due to the uniformity of their image for users and, consequently due to users' ease of movement and interpretation in and about the system of libraries.

Coimbra University's libraries have accomplished an integrated vision of the role they already had in 2006, in the above mentioned document on restructuring and reorganizing libraries, namely as regards the pedagogical function of the library. In this context, the focus has to do with the changes brought about by technological, social and educational changes, in the higher education system, and with what that implies in learning and divulging information. Regarding the challenges and initiatives that are meant to be carried out in the libraries, Marques (2006: 24), comments:

Supporting the pedagogic paradigm change by providing the necessary information resources in a suitable context, as a result of team work between librarians and teachers. The separations between teaching, information research and the use of information technologies will become increasingly weak, and the process will gain more relevance in an active learning model, as opposed to the passive absorption of contents.

Awareness of a change context is evident and it fits the perspective that these are the aspects to consider for the actions of libraries, regarding their support given to teaching and to research. Following the ideas previously stated, the author (Marques, 2006: 24) regards as priorities:

Promotion of info-literacy among the academic community, that is, the need to develop personal skills to identify, locate, access, evaluate and apply the information in a working context.

Creation in new models of scientific publication, namely in initiatives of on-line journal publication, with peer review, and of the creation of

institutional repositories that allow open access to the scientific and technical production of the researchers' communities, namely to dissertations, papers, reports and technical opinions.

Regarding the libraries of Coimbra University, the most notable features are definitely the need to balance more traditional aspects of keeping and preserving bibliographic items (for these libraries have secular bibliographic patrimony that is very rich and unique on the world scale) with the digital era, in which new technologies may be an ally for the dissemination, technical standardization, maximization of resources and optimization of services provided to the academic community.

### **Aveiro University Libraries**

Before describing the Aveiro University Libraries, it is important to note that this is one of the most recent universities in Portugal, having been created only in 1973. Between the 80s and the 90s it developed remarkably, namely through the construction of new buildings for the university campus and through the expansion of spaces to other territories (Águeda and Oliveira de Azeméis). Investment in the latest technologies and in an idea of university directed towards the business fabric led to its recognition and national and international prestige in cutting edge scientific fields, particularly in research and knowledge transfer to industries.

The University's organic structure for its common services areas, also known as Central Services, is a hierarchic structure depending directly on the University's Administrator. Therefore the libraries are assigned to one of these Service areas, called *Library, Documental Information and Museology Services*, thus created in 2009. This Direction of Services, supported by an Office, entails three functional areas: the Library, Electronic Resources and User Support, and the field of Archive and Museum. To ensure all these services, the team is composed of around fifty elements, including senior staff, library, archive and documentation staff, and auxiliaries or administrative staff, under the direction of intermediate management for each one of the functional areas, which in turn reports to the Direction of Services.

The existing spaces correspond to the organic and functional areas of the Direction of Services. These are the spaces of the five libraries that exist in Aveiro University, the UA Library, the Media Library, the Library of the Higher Institute of Accounting and Administration, the Knowledge Resource Center of the Aveiro Norte Higher School and the Library of the Águeda Higher School of Technology and Management; as well as the spaces corresponding to the Archive of the University and to the Museum Center that is still under way.

The UA libraries have recent buildings, adapted to the needs of the community. The main building is an ample, luminous, open space, with four floors that structure it according to functional areas and whose documental collection is organized in thematic areas of the Universal Decimal Classification (UDC). It is interesting to stress that the spaces are also divided into zones that meet the study needs of their users: the collaborative zone (aimed at group study, where mild-toned conversations are allowed as well as the mobile phone on silent or vibration mode); the calm zone (where the occasional exchange of ideas is allowed as well as brief conversations in a soft voice, but the use of mobile phones is forbidden); and the silent zone (aimed at individual study, where absolute silence must be complied with and mobile phones are forbidden). The other spaces, which are smaller, gather information regarding the specialty subjects of the respective schools.

One of the most visible areas of this network of libraries is the diffusion of designed information considering its technological devices. This service bets on virtual means (webpage, blog, Facebook) to provide access by its users to informational resources on-line (library catalogues, scientific and technical information databases, and scientific journals in electronic format). It is also worth noticing its emphasis on digital resources, such as e-books, and on the institutional repository. On the other hand, the diffusion of varied information to its users, in a very coherent manner in relation to the institutional image, is also noteworthy, for it allows for virtual interaction between staff and users (suggestions for new buys, signing up for training, and so on).

Although the main activities of the Direction of Services focus on the technical tasks that shape a service of this nature, one very important aspect has to do with

assisting users and giving them training. The Aveiro University libraries affirm their pedagogical functions through three lines of action: an in-person and virtual reference service, a user-training service with a program in modules, and investment in informational guides, which are available through the virtual means of diffusion and are broadly disseminated.

In the official site of Aveiro University, in the specific area of Libraries (Aveiro, 2012), this is how the purpose of the Reference Service is put: «its main objective is to support the user in the development of studies and research, contributing to make access to information resources more effective, as well as to promote greater efficacy in its use». This service (provided in person or at a distance) provide varied information of an introductory nature so that users develop autonomy in the research they carry out, focusing on the support to discover the catalogue, and specific databases, on scientific journal portals and web resources that might be of interest to users.

As for user training, it is essentially divided into two segments: on the one hand, the training carried out by staff upon request by the teacher of the subject, aimed at medium-sized groups (about 15 students) made up of 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> cycle students. Registration is done by the teacher in charge. These training sessions have included subjects associated with the system of bibliographic management, EndNoteX5, with the way to locate documents in the UA Libraries, with the selection of sources of scientific information and statistical information research. On the other hand, the UA Library promotes open enrolment workshops, targeted at the academic community, to deepen the themes previously described or for the presentation of more specific resources or subjects whose aim is to development competences in information literacy.

Finally, it must be noted that the manuals and tutorials are disseminated on-line with a view to «helping all users in the use of available information in the Libraries and in databases and digital platforms, as well as to provide information that suits the development of information literacy competences». These documents are available not only in pdf but also in Powerpoint and even video, always with great quality, respecting a uniform image and communicating, the objective of improving scholars' academic competences.

## **Lisbon University Libraries**

Before beginning to characterize the Libraries of the University of Lisbon, it is important to note that a similar characterization, which we are now resuming, was carried out in 2012 (Sanches, 2012). The Lisbon University mentioned here is the result of a fusion in 2014 between the former University of Lisbon and the former Technical University of Lisbon, combining nineteen higher education establishments and their respective libraries, as shown below:

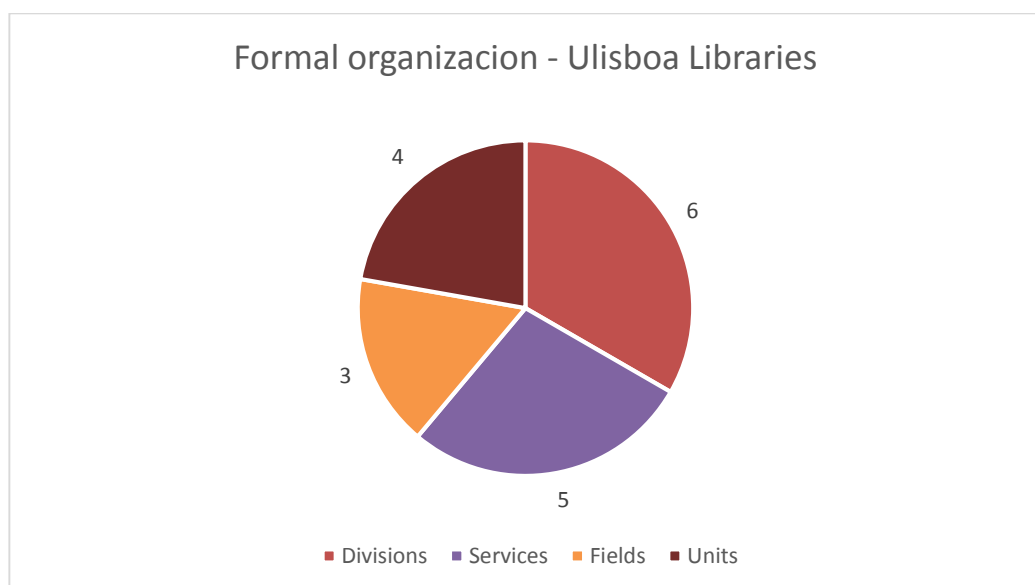
- FA Faculty of Architecture
- FBA Faculty of Fine Arts
- FC Faculty of Science
- FD Faculty of Law
- FF Faculty of Pharmacy
- FL Faculty of Arts
- FMD Faculty of Dental Medicine
- FMH Faculty of Human Kinetics
- FM Faculty of Medicine
- FMV Faculty of Veterinarian Medicine
- FPIE Faculty of Psychology and Institute of Education
- ICS Institute of Social Sciences
- IDL Dom Luiz Institute
- III Institute for Interdisciplinary Research
- ISA Higher Institute of Agronomy
- ISCSP Higher Institute of Social and Political Sciences
- ISEG Higher Institute of Economy and Management
- IST Higher Technical Institute
- RUL Rectory of the Lisbon University

As repositories and essentially gateways to access information and knowledge, †  
The libraries of the Lisbon University are privileged tools for the promotion of  
academic achievement and research and, consequently, of institutional knowledge,

growth and affirmation, of internationalization and, ultimately, of the sustainability of the University itself.

The principles of organization and management of Academic Libraries, recommended in the *Standards for Libraries in Higher Education* (ALA, 2011), are based on guidelines for providing quality services and concern professional values, spaces, staff, management, collections, research, the educational role, institutional efficacy, and external relations. Some of these standards are undoubtedly complied with by these libraries and they are the inspiration for this analysis and characterization.

The Lisbon University Libraries constitute a common system across the institution that provides on-site service to the academic community through its continuous and affirmative presence in the different organic units. As mentioned earlier, this general analysis only took into account 13 units that organically assume different formats, but currently the Lisbon University includes 19 libraries. A certain heterogeneity is visible in the formal organization of each library, so that 6 libraries are identified as Divisions (RUL, FBA, FL and FPIE, ISEG, ISA), 6 libraries are looked upon as Services (FA, IDL, ICS, FMD, FF, ISCSP), 4 libraries as Units (FDUL, FCUL, III e FMV) and 3 as Fields (IST, FM, FMH).



It should be noted that each one of these information units corresponds to an organic unit, except for the Library serving the Faculty of Psychology and the Institute

of Education, and the Library of the Faculty of Arts, which also hosts the documentation of the Institute of Geography and Spatial Planning. In both cases one service is directly supplied to two organic units. The structure and administration of most libraries is consolidated and essentially reflects an internal managerial option. Besides the administrative and functional dimension provided by technical staff, some libraries are scientifically oriented and, in certain cases, coordinated by Librarian Professors or by Library Coordination Councils. However, most have a considerable amount of autonomy and report to the Secretary-Coordinator or directly to the Director of the Organic Unit. The libraries are not unified or coordinated by some common administrative structure; rather, they report autonomously and only to their corresponding organic units.

At this level, the work of the Rectory's Documentation Services has mainly to do with technical follow-up at the local units, upon request. This situation, partly stemming from the scientific and pedagogical autonomy of the different OUs, sometimes hinders open, more complex communication, even though there is some cooperation because of the implementation of common projects. We might question whether these libraries, as a whole, are complying with the assumptions put forth in the standards for higher education libraries regarding their management: «Libraries engage in continuous planning and assessment to inform resource allocation and to meet their mission effectively and efficiently». (ALA, 2011)

As regards the staff working in the libraries, we find quite different realities. They range from the largest team working in one library, that of the Faculty of Arts (19 staff members, besides dozens of external collaborators, such as outsourcers, trainees, scholarship holders and volunteers) to the smallest teams, at the Institute of Interdisciplinary Research and at the Infante D. Luiz Geophysical Institute (1 person per unit). The asymmetries are considerable and it is common to hear about the "lack of staff". Currently, about 200 people are working in the Lisbon University Libraries. The staff that are technically qualified to work in the field of documentary sciences – 46 archive, library and documentation higher technicians and 64 archive, library and documentation technicians – corresponds to about half the full number of collaborators (i.e., 110 out of a universe of 205 staff members). Around 50 people



work in the field of documentary sciences with no proper qualification in this specific field. It is also interesting to acknowledge the importance of the collaborators who are scholarship holders, trainees and volunteers – 45 people. The collaboration of these temporary workers is essential to guarantee the lengthy, continuous hours open, which would otherwise be impossible to handle. We could also question whether the recommendations regarding staff in university libraries are being upheld: «Libraries provide sufficient number and quality of personnel to ensure excellence and to function successfully in an environment of continuous change». (ALA, 2011).

As for the collections, in the whole University in 2013 there were over 1,000,000 titles, corresponding to around 1,600,000 physical documents that were processed and entered into the common catalogue. Besides these physical documents, there are also thousands of virtual documents, acquired and made available by the libraries through specialized databases, and digitalized documents made available in the Digital Library, as well as the University's scientific output, which is available in the Repositories.

In terms of the quantity, diversity, scope and multidisciplinary of the collections, the outlook is positive, based on the mere fact that there are over one million two hundred thousand physical volumes, from incunabula to current editions, supplemented by tens of thousands of papers, abstracts and other virtual documentation. There is, indeed, substantial compliance with the international standards that state: «Libraries provide access to collections sufficient in quality, depth, diversity, format, and currency to support the research and teaching missions of the institution». (ALA, 2011). However, the collections' management and development are more than just quantitative indicators.

Organization, technical processing, storing conditions and availability are essential for efficient, timely user access to information. Issues such as acquisition control to avoid duplication and waste; a coherent, thoughtful organization viewed as a whole in terms of the UL; making editorial novelties available *just in time*; a proper, suitable storage of documents; the conservation and digital preservation of specific documentation, as well as upstream exemption, equity and freedom in managing acquisitions. All these criteria should be taken into account by the librarians in charge.

In most cases the libraries have spaces that are suitable for the public they serve. This question is vital because in order to promote learning and research, proper physical conditions must be met. Actually, the following is recommended in this sense: «Libraries are the intellectual commons where users interact with ideas in both physical and virtual environments to expand learning and facilitate the creation of new knowledge» (ALA, 2011). However, there are some situations in which managing the physical environment is hindered by the multitude of rooms and compartments scattered across different areas of the same building (or even in different buildings), which exhibits a lack of medium and long term planning or the presence of extinct organic and functional divisions. The complexity involved in managing department libraries and sub-libraries, namely in the case of the Faculty of Science and of the Museums, presages the internal need to consider the suitability of aggregating spaces with more technical capacity and advantages regarding resource optimization, with clear improvements in terms of user access.

As for the technological fields applied to documentation, the libraries are on a par because the system that supports and unifies all the technical work is the same one. The clearest advantages of having a common system have to do with obtaining a common, federated catalogue that allows searches to be carried out in all the libraries of the University. Updating, technical support, and possible interaction between elements of different libraries are all facilitated. However reader circulation is not yet in most libraries, and students, teachers and researchers are handled differently from one library to another when they go outside their unit of origin. Another cross-sectional field has to do with the possibility of self-service photocopies and prints. Other technological aspects have been considered on an individual basis, according to the needs or projects of each Organic Unit, such as digitalizing specific documentation, introducing links to full text, optimizing institutional sites (with access to electronic resources) and using social networks to communicate with the academic community and others. Prospects include incorporating resources in integrated access platforms, so that users can access several resources from one single point for virtual research.

When providing for users, besides the reading spaces and on-site consultation spaces, the following should be considered: «Libraries enable users to discover

information in all formats through effective use of technology and organization of knowledge» (ALA, 2011). The discovery of resources is possible by libraries providing a systematized set of resources with organized access and available to the public. But how can we satisfy a potential universe of about 50,000 students, 3,000 teachers and researchers and 3,000 workers? Generally speaking this has been possible because there are proximity structures where a thematic organization groups the interests of the potential public in the respective organic units' libraries.

Another thing that guarantees readers' proximity and their subsequent use of resources is investment in users' training in search techniques and the use of resources. Most libraries carry out training sessions for their users besides the training in loco, by going to classrooms (usually at the beginning of the school year) to explain how things work and how to access electronic resources. Some libraries offer more specific training, with proposals (sometimes in modules) that readers can sign up for freely. Therefore the libraries do their part in intervening at the level of learner support, as internationally recommended: «Libraries partner in the educational mission of the institution to develop and support information-literate learners who can discover, access, and use information effectively for academic success, research, and lifelong learning». (ALA, 2011)

Libraries come up with different strategies and actions to support research. Often in research projects there is support for research and acquisitions which shall form the basis of the research development. Self-archiving scientific output in the institutional Repository is encouraged. It should be noted that scientific output that results from completing academic degrees (theses, dissertations, reports, and so on) is entered in the institutional Repository by the different libraries.

The challenge of the Lisbon University Libraries is to establish and implement more effective forms of communication, and to establish interconnections and synergies that enhance the work. It is about the increase and optimization of the use of technological platforms associated with information; establishment of more and better common procedures; facilitation of user circulation and document circulation across the ULisboa; reflection upon the libraries' funding models; shared ideas about the process of collection development; implementation of ways to exchange

knowledge, experiences, and resources. All these are fields where we can converge toward effective partnerships, while always keeping in mind a positive influence on higher education students' academic path.

### **Final remarks**

This panorama of four Portuguese university libraries has allowed an observation of their main characteristics. The common traits that emerged from this characterization can be listed as follows: the need to optimize resources and improve technical efficacy; the search for a balance between tradition and innovation, between the meaningful historical patrimony libraries are holders of and the need to preserve and disseminate it; the ongoing adjustment to technologies and to face the exponential growth of scientific information; the imperative to improve access to collections and to information resources, for which it is essential to provide users' training, to make users more efficient and selective finders of information; and lastly to take on a pedagogical function, that justifies investing in the libraries and through which we find a point of contact between learning and the production of scientific knowledge.

The structures of the several libraries are unique among great universities for their degree of decentralization. Most of the constituent libraries are funded by and report to the different faculties of the analyzed Universities or to departments within them. Perpetuation of this type of administrative structure, rather than facilitating the development of new strengths and fostering an agile organization for the twenty-first century, may hold the Universities captive to their history.

In conclusion, technical efficacy and resource optimization are the most recently emphasized aspects due to the political, economic, environmental and social context of Europe today, and particularly of Portugal. This context heightens the need to think and act upon the evidence of shortage and limitation of these very resources. The ways libraries have found to continue their work to battle this condition have to

do with suiting work and routines, with managing teams towards the optimization of their competencies, and enhancing their activity with more and more users. So it is advisable for libraries to continue promoting their users' autonomy, adjusting technologically and simplifying procedures, in order to balance more tasks and routines in less time.

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